



## Power Bridge Rectifiers

### SKB 25

#### Features

- Square plastic case with isolated metal base plate and fast-on connectors
- Blocking voltage up to 1600 V
- High surge current
- Easy chassis mounting
- UL recognized, file no. E 63 532

#### Typical Applications\*

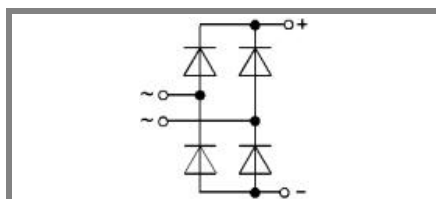
- Rectifier for power supplies
- Input rectifier for variable frequency drives
- Rectifier for DC motor field supplies
- Battery charger rectifiers
- Recommended snubber network:  
RC: 50  $\Omega$ , 0.1  $\mu$ F ( $P_R = 1$  W)

1) Freely suspended or mounted on an insulator

2) Mounted on a painted metal sheet of min. 250 x 250 x 1 mm

| $V_{RSM}, V_{RRM}$<br>V | $V_{VRMS}$<br>V | $I_D = 17$ A ( $T_c = 75$ °C)<br>Types | $C_{max}$<br>$\mu$ F | $R_{min}$<br>$\Omega$ |
|-------------------------|-----------------|----------------------------------------|----------------------|-----------------------|
| 100                     |                 | SKB 25/01                              |                      | 0,1                   |
| 200                     |                 | SKB 25/02                              |                      | 0,15                  |
| 400                     |                 | SKB 25/04                              |                      | 0,3                   |
| 600                     |                 | SKB 25/06                              |                      | 0,5                   |
| 800                     |                 | SKB 25/08                              |                      | 0,7                   |
| 1200                    |                 | SKB 25/12                              |                      | 1                     |
| 1400                    |                 | SKB 25/14                              |                      | 1,2                   |
| 1600                    |                 | SKB 25/16                              |                      | 1,5                   |

| Symbol        | Conditions                                             | Values         | Units            |
|---------------|--------------------------------------------------------|----------------|------------------|
| $I_D$         | $T_a = 45$ °C, isolated <sup>1)</sup>                  | 3,5            | A                |
|               | $T_a = 45$ °C, chassis <sup>2)</sup>                   | 10             | A                |
| $I_{DCL}$     | $T_a = 45$ °C, isolated <sup>1)</sup>                  | 3              | A                |
|               | $T_a = 45$ °C, chassis <sup>2)</sup>                   | 9,5            | A                |
|               | $T_a =$ °C,                                            |                | A                |
| $I_{FSM}$     | $T_{vj} = 25$ °C, 10 ms                                | 370            | A                |
|               | $T_{vj} = 150$ °C, 10 ms                               | 320            | A                |
| $i^2t$        | $T_{vj} = 25$ °C, 8,3 ... 10 ms                        | 680            | A <sup>2</sup> s |
|               | $T_{vj} = 150$ °C, 8,3 ... 10 ms                       | 500            | A <sup>2</sup> s |
| $V_F$         | $T_{vj} = 25$ °C, $I_F = 150$ A                        | max. 2,2       | V                |
| $V_{(TO)}$    | $T_{vj} = 150$ °C                                      | max. 0,85      | V                |
| $r_T$         | $T_{vj} = 150$ °C                                      | max. 12        | m $\Omega$       |
| $I_{RD}$      | $T_{vj} = 25$ °C, $V_{RD} = V_{RRM}$                   | 300            | $\mu$ A          |
|               | $T_{vj} =$ °C, $V_{RD} = V_{RRM} \geq V$               |                | $\mu$ A          |
| $I_{RD}$      | $T_{vj} = 150$ °C, $V_{RD} = V_{RRM}$                  | 5              | mA               |
|               | $T_{vj} =$ °C, $V_{RD} = V_{RRM} \geq V$               |                | mA               |
| $t_{rr}$      | $T_{vj} = 25$ °C                                       | 10             | $\mu$ s          |
| $f_G$         |                                                        | 2000           | Hz               |
| $R_{th(j-a)}$ | isolated <sup>1)</sup>                                 | 15             | K/W              |
|               | chassis <sup>2)</sup>                                  | 4,7            | K/W              |
| $R_{th(j-c)}$ | total                                                  | 2              | K/W              |
| $R_{th(c-s)}$ | total                                                  | 0,15           | K/W              |
| $T_{vj}$      |                                                        | - 40 ... + 150 | °C               |
| $T_{stg}$     |                                                        | - 55 ... + 150 | °C               |
| $V_{isol}$    | a.c. 50 ... 60 Hz; r.m.s.; 1 s / 1 min.<br>to heatsink | 3000 / 2500    | V~               |
| $M_s$         |                                                        | 2 $\pm$ 15 %   | Nm               |
| $M_t$         |                                                        |                | Nm               |
| $a$           |                                                        |                | m/s <sup>2</sup> |
| $w$           |                                                        | 24             | g                |
| $F_u$         |                                                        | 20             | A                |
| Case          |                                                        | G 10b          |                  |



SKB

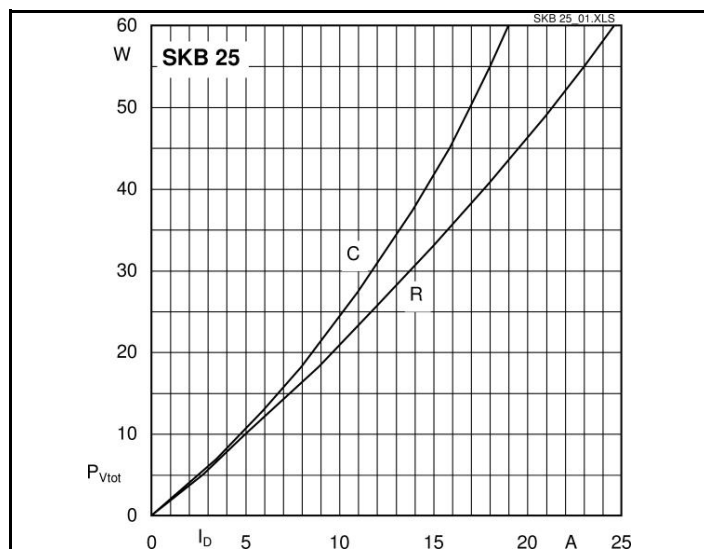


Fig. 3L Power dissipation vs. output current

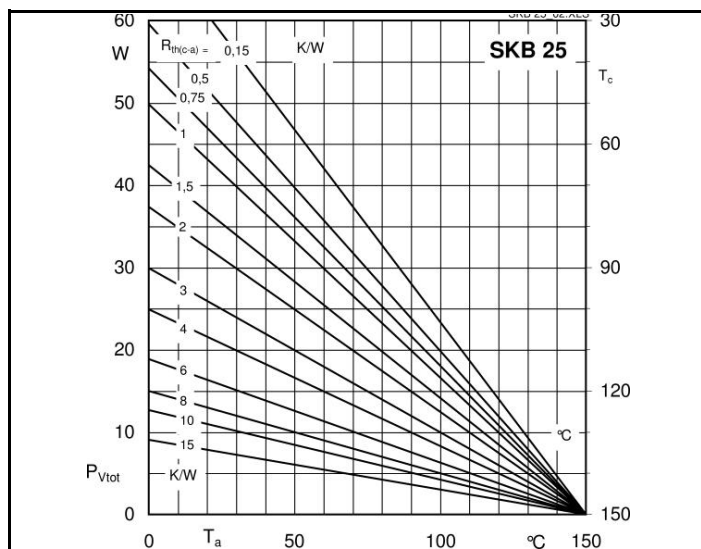


Fig. 3R Power dissipation vs. case temperature

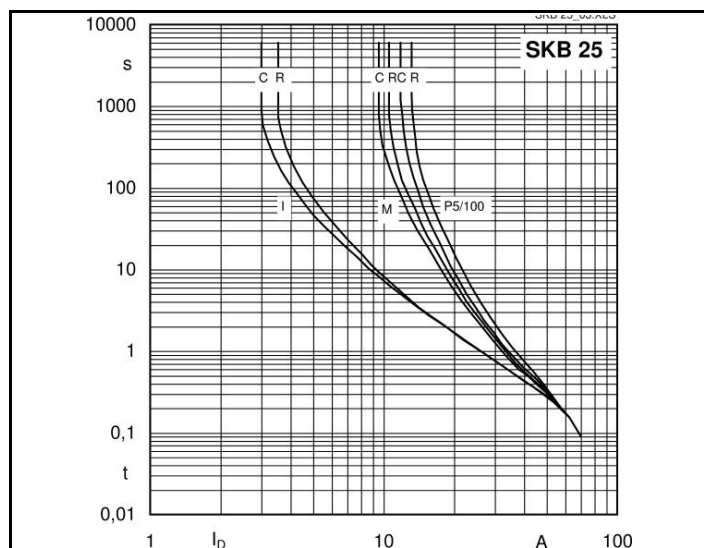


Fig. 6 Rated overload characteristics vs. time

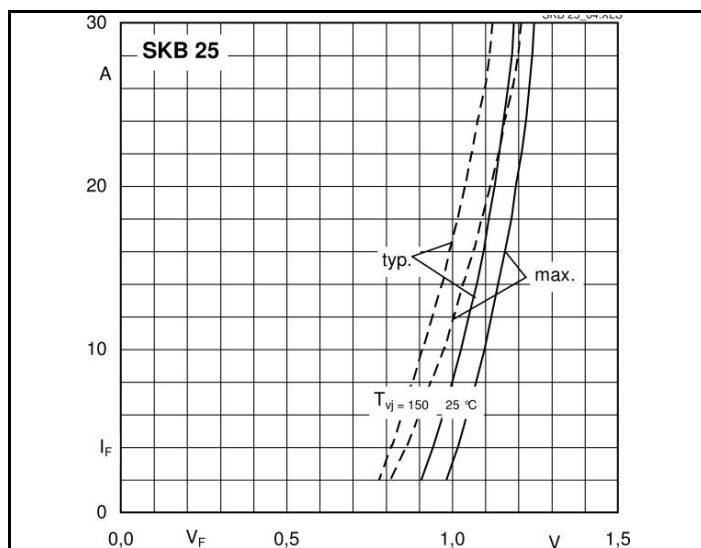
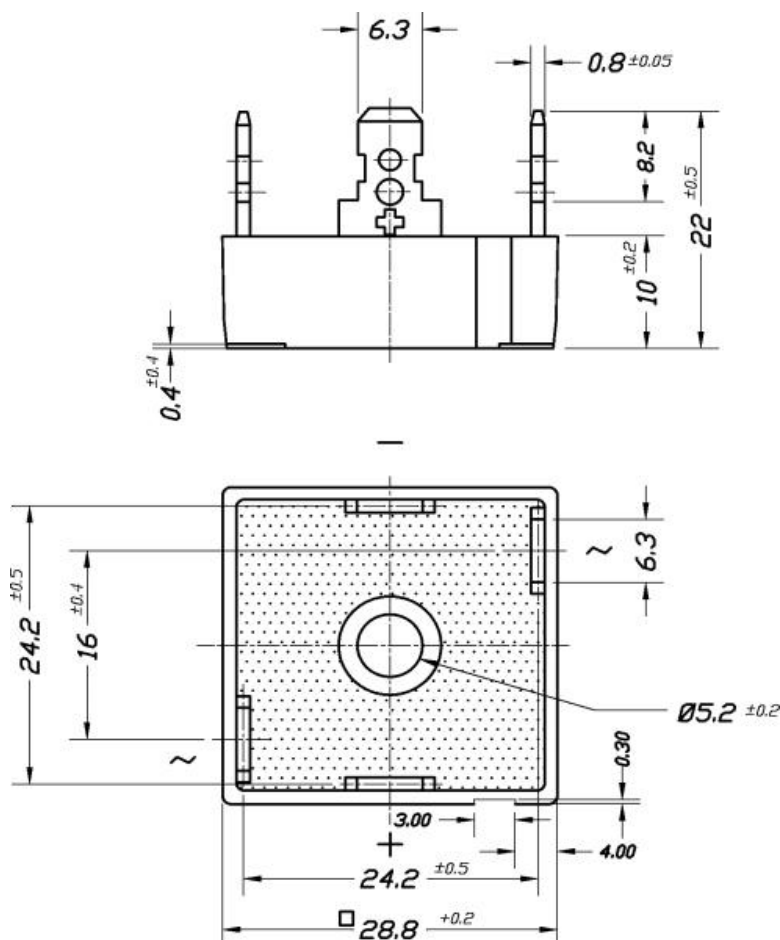


Fig. 9 Forward characteristics of a diode arm



Case G 10b

\* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.